BIOGRAPHICAL SKETCH

Name	**Position Title,**
M. Ian Gilmour	Lead Research Biologist, U.S. Environmental Protection Agency.

EDUCATION/TRAINING/PREVIOUS EXPERIENCE

Institution and Location	**Degree**	**Year**	**Field of Study**
University of Glasgow, U.K.	B.Sc.	1984	Microbiology and immunology
University of Bristol, U.K.	Ph.D	1988	Aerobiology and inhalation toxicology
Johns Hopkins University, Baltimore,	Post-doc	1988-90	Immunotoxicology
University of North Carolina, NC	Post-doc	1990-92	Health effects of air pollution

Positions and Employment:

1992-98: Research Associate. Center for Environmental Medicine and Lung Biology, University of N Carolina.
1998-2000: R Authority Biologist, Experimental Toxicology Division, U.S Environmental Protection Agency.
2000-2005: Research Biologist, Experimental Toxicology Division, U.S Environmental Protection Agency.
2005-present: Lead Research Biologist, Experimental Toxicology Division, U.S Environmental Protection Agency.

Adjunct positions

1998-2002: Adjunct Assistant Professor, UNC School of Public Health, and UNC Curriculum in Toxicology
2002-present: Adjunct Associate Professor, UNC School of Public Health and UNC Curriculum in Toxicology
2000-present: Adjunct Associate Professor, NC State College of Veterinary Medicine.

Professional Societies:

Society of Toxicology (Elected Councilor, Inhalation Specialty section 2003-5)

Committees and Consultant Appointments: (last four years)

2002: Expert speaker: National Acadamy of Sciences, (NRC committee on particulate matter).
2003: Committee member: National Science Foundation roundtable on health effects of nanoparticles.
2003: Expert speaker: International Life Sciences Institute. Respiratory immunotoxicology technical committee.
2005-2008: Consulrant NIEHS-RO1-013611. Diesel exhaust alteration of influenza infectivity. PI Ilona Jaspers.
2006: Reviewer: UCLA EPA PM Center. PI: J Froines
2006-: Consultant/Collaborator: Telethon Institute of Children's Health, Perth, W Australia. PI P Holt and P Sly

Honors:

1994 and 2004: Paper of the year: Inhalation Specialty Section, Society of Toxicology
1995: Recipent: U.S. Permanent residency. INS outstanding scientist program.
1999: Young Investigator of the Year: Inhalation Specialty Section, Society of Toxicology
2001: EPA Science and Technology Achievement Award (Level 2)
2002: Young Investigator of the Year: Immunotoxicology Specialty Section, Society of Toxicology
2003 EPA Gold Medal for Particulate Matter Research
2004 Science and Technology Achievement Award (Level 3)
2004 EPA National Health Effects Award for Scientific Integration.

SELECTED PEER-REVIEWED PUBLICATIONS (out of 60**)**

Gilmour MI., Wathes CM., & Taylor FGR. (1989). Pulmonary clearance *of Pasteurella haemolytica* and immune responses in mice following exposure to titanium dioxide. Environ. Res. **50**. 184-194.
Gilmour MI., Wathes CM., & Taylor FGR. (1990). The airborne survival *of Pasteurella haemolytica* and its deposition and clearance from the mouse lung. Vet. Microbiol. **80**. 363-375.
Gilmour MI., Wathes CM., & Taylor FGR. (1991). Serum antibody responses in mice to intermittent inhalation of ovalbumin dust. Int. Arch. Allergy. Appl. Immunol. **95**. 285-288.
Gilmour MI., Hmieleski RRJ., Stafford, EA., & Jakab GJ. (1991). Suppression and recovery of the alveolar macrophage phagocytic system during exposure to 0.5 ppm O_3. Exp. Lung. Res. **17**. 547-58.
Gilmour MI., & Jakab GJ. (1991). Modulation of immune function in mice exposed to 0.8 ppm ozone. Inhalation Toxicology. **3**. 293-308.

Gilmour MI., Park P., Doerfler D., & Selgrade MK. (1993). Factors affecting the suppression of antibacterial defenses in mice exposed to ozone. Exp. Lung. Res. **19**. 299-314.
Gilmour MI., Park P., & Selgrade MK. (1993). Enhanced susceptibility to streptococcal infection in mice exposed to O_3; the role of alveolar macrophage function and capsular virulence factors. Am. Rev. Resp. Dis. **147**. 753-60.
Wills-Karp M., & Gilmour MI. (1993). Increased cholinergic antagonism underlies the impaired adrenergic response in an experimental model of asthma. J. Appl. Physiol. **74**(6). 2729-2735.
Gilmour MI., & Selgrade MK. (1993). A comparison of the pulmonary defenses against streptococcal infection in rats and mice following O_3 exposure: Differences in disease susceptibility and neutrophil recruitment. Tox. Appl. Pharmacol. **123**. 211-218.
Selgrade MK., & Gilmour MI. (1994). Effects of gaseous air pollutants on immune responses and susceptibility to infectious and allergic disease. In Immunotoxicology and Immunopharmacology, 2nd Edition, Chapter 24. eds JH Dean, MI Luster, AE Munson, & I Kimber. Raven Press, New York.
M.K. Selgrade., Gilmour MI., Yang, Y.G., Burleson, GR., & Hatch (1995). Pulmonary host defenses and resistance to infection following subchronic exposure to phosgene. Inhalation Toxicol. **7**. 1257-1268.
Gilmour M.I. (1995). Interaction of air pollutants and allergens in models of asthma. Toxicology. 105. 335-342.
Jakab GJ., Spannhake EW., Canning BC., Kleeberger SR., & Gilmour MI. (1995). The effects of ozone on immune function. Environmental Hlth Perspect. **103**. Supp 2. 77-89.
Gilmour MI., Park P., & Selgrade MK. (1996). Increased immune and inflammatory responses to dust mite antigen in rats exposed to 5 ppm NO2. Fund App Toxicol. **31**: 65-70.
Bell, S.J.D, Metzger, W.J., Welch, C., & Gilmour, M.I. (1996). A role for Th-2 memory cells in early airway obstruction. Cellular Immunology **170**, 185-194.
Lambert, AL., Winsett, DW. Costa, DL., Selgrade, MJ., & Gilmour, MI. (1998). Differential transfer of allergic airway responses and pulmonary inflammation with serum and lymphocytes from house dust mite sensitized rats. Am J. Resp Critical Care Med.**157**. 1991-1999.
Gilmour, MI., and Selgrade, MJK. (1998) Modulation of T lymphocyte responses by air pollutants. In T lymphocyte sub-populations. Eds I Kimber and MJK Selgrade. John Wiley, Chichester, U.K. p253-272.
Coussons-Read ME; Daniels M; Gilmour MI. (1998). Morphine alters the immune response to influenza virus infection in Lewis rats. Adv Exp Med Biol;**437**:73-82.
Lambert, AL., Winsett, DW., Selgrade, MJ., & Gilmour, MI (1999). Residual oil fly ash (ROFA) enhances allergic airway responses to house dust mite (HDM) in Brown Norway rats. Tox Appl Pharmacol. 158. 269-277.
Lambert, AL., Selgrade, MJ & Gilmour, MI. (2000) Enhanced allergic sensitization by residual oil fly ash particles is mediated by soluble metal constituents. Tox Appl. Pharmacol. 165. 84-93.
Gilmour, MI., Selgrade, MJ. & Lambert, AL (2000). Enhanced allergic sensitization in animals exposed to particulate air pollutants. Inhalation Toxicol12 (S3) 373-380.
Dong, W., Kari, FW., Selgrade, MJK & Gilmour, MI. Attenuated allergic responses to house dust mite antigen in feed restricted rats. Env Hlth Persp.108 (12). 1125-31.
Gilmour MI. & Koren HS. (2000) Interaction of inhaled particles with the immune system. In Particle-Lung Interactions. Pp 629-652. Eds P. Gehr and J. Heyder. The Lung Series. Marcel Decker.
Gilmour MI. (2000) Hypersensitivity and asthma. In Pulmonary Immunotoxicology.. pp107-126. Eds M, Cohen., J, Zelikoff., and R, Schlesinger. Kluwer Academic Publishers.
Gilmour, MI., Daniels, M., McCrillis, RC., Winsett, DW & Selgrade, MJ. (2001). Air pollutant-enhanced respiratory disease in experimental animals. Env Hlth Persp. 109 (S4) 619-622.
Lambert, AL., Selgrade, MJ, Winsett, DW & Gilmour, MI. (2001). TNF-a enhanced allergic sensitization to house dust mite in Brown Norway rats. Exp Lung. Res. 27. 617-635.
Luebke, RW., Copeland, CB., Daniels, AL., & Gilmour, MI. (2001). Suppression of allergic responses to house dust mite (HDM) in rats exposed to 2,3,7,8-TCDD. Tox Sci. 62. 71-79.
Luebke, RW., Copeland, CB., Bishop, LR., Daniels, M., & Gilmour, MI. (2002). Mortality in dioxin-exposed mice infected with influenz: mitochondrial toxicity (reyes like syndrome) versus enhanced inflammation as the mode of action. Tox Sci. 69.109-116.
Singh, P, Daniels, M, Winsett, DW, Richards, J, Doerfler, D, Hatch, G, Adler, KB, Gilmour, MI. (2003) Phenotypic comparison of allergic airway responses to house dust mite in three rat strains. American Journal of Physiology: Lung Cellular and Molecular Physiology.
Dong, W., Selgrade. M.J.K., and Gilmour, MI. (2003) Systemic administration *of B pertussis* enhances pulmonary sensitization to hour dust mite in juvenile rats. Toxicological Sciences, 72. 113-121. 284. L588-98.
Daniels, M.J., Selgrade, M.J.K., Doerfler, D., and Gilmour, M.I. (2003) Kinetic Profile of Influenza Virus Infection in Three Different Rat Strains. Comparative Medicine53 (3) 293-298.
Gavett, SH., Haykal-Coates, N, Copeland, LB., Heinrich,J., Gilmour, MI. Metal-Rich Ambient $PM_{2.5}$ Exacerbates Allergic Airways Disease in Mice. (2003). Env Hlth Perspect 111 (12) 1471-77.

Dick, CA., Singh, P., Daniels MJ., Evansky, PA., Becker,S., and Gilmour MI. (2003) Murine pulmonary inflammatory responses following instillation of size fractionated ambient particulate matter. Journal of Toxicology and Environmental Health. 66(23) 2103-2208.
Gilmour, MI., O'Connor, S., Dick, CA., Miller, CA., and Linak, WP. (2004) Differential pulmonary inflammation and in vitro cytotoxicity by size fractionated particles collected from combusted coal emissions. J Air Waste Management Assoc. 54 286-295.
Singh P., DeMarini D.M., Dick C.A.J., Tabor D., Ryan J., Linak W.P., Kobayashi T., and Gilmour M.I. (2004) Sample characterization of automobile and forklift diesel exhaust particles and comparative pulmonary toxicity in mice. *Environmental Health Perspectives* 112(8) 820-825.
Singh P., Madden, M and Gilmour M.I. (2005). Effect of diesel exhaust particles and carbon black on induction of dust mite allergy in Brown Norway rats. J Immunotoxicology 2. 1-10.

Ongoing EPA intramurally funded research projects:
2003: Develop a diesel inhalation system .
2003: Develop a high temperature drop tube furnace for generating ultrafine coal fly ash.
2003: Investigate role of Tlr receptors in air pollution-enhanced infection.
2004: Study effect of aldehyde exposure on allergic asthma.
2005: Develop a computational model for the toxicity of diesel exhaust components
2006: Study effect of in utero diesel exposure on development of allergic asthma.

Support to Agency:
June 2005- present: Team leader: Inhalation exposure facility (supervise 12 inhalation engineers and a core chemistry facility)
2003-4: Acting Chief Immunotoxcology Branch
2002-present: Theme leader: NHEERL asthma team
2003-present: Member: Particulate Matter research steering committee
1994-present: Reviewer: Ozone and PM criteria documents

Student Committees and Mentor Experience (last 6 years)
2005- J Ciencewicki. Curriculum in Toxicology, UNC Chapel Hill.
2005- M Doyle, Envronmental Science & Engineering, UNC Chapel Hill
Post-Doc Advisor, Weiyan Zhu Ph.D. Center for Environmental Medicine and Lung Biology, UNC, (2005-)
Post-Doc Advisor, Seung-Hyuen Cho Ph.D. Oakridge National fellowship Program College 2005-
Thesis advisor 2004-present Kymberly Gowdy. NC State College of veterinary medicine.
Thesis advisor 2003-present Tina Stevens. UNC Curriculum in Toxicology
Post-Doc Advisor, Pramila Singh Ph.D. College of Vet Medicine. NC State Training Program, (2000-2005)
Post-Doc Advisor, Colin Dick Ph.D. Center for Environmental Medicine and Lung Biology, UNC, (2001-02)
Thesis Advisor for A Lambert, UNC, Curriculum in Toxicology. Ph.D. Program (1996-2000).

Invited presentations and chairing of sessions (last 5 years)
NATIONAL
Society of Toxicology 2005. Speaker. Metals particles and impact on pulmonary allergic responses
Society of Toxicology 2005. Speaker. Effect of size fractionated ambient PM samples on induction of pulmonary allergu in mice. allergy in mice.
Society of Toxicology 2005. Symposium chair. New Orleans LA. In vitro toxicity testing of air pollutants: Health Effect Institute 2004. Speaker. Assessing toxicity of ambient and combustion derived particles
Society of Toxicology 2004. Symposium chair and speaker. Diesel emissions: New horizons in the chemistry, health effects and regulations.
Society of Toxicology 2004. Symposium chair and speaker. Modulation of host defenses by air pollutants
Health Effects Institute Workshop: Nov 2003. Speaker. Denver, CO Toxicity testing for diesel emissions (ACES)
Society of Toxicology 2003: Workshop Chair and speaker, Salt Lake City. Methods for the identification and characterization of respiratory allergens.

INTERNATIONAL
Monash University Department of Environmental Epidemiology. April 2005, Melbourne, Southern Australia. Speaker: Chemical speciation in air pollution and relationship with toxicity
Telethon Institute of Children's Health Research, March 2005, Perth, Western Australia. Speaker: Impact of air pollutant exposure on development of allergic asthma

Thoracic Society of Australia and New Zealand, March 2005, Perth, Western Australia. Featured Speaker: Health effects of air pollution
International Society for Aerosols in Medicine, March 2005, Perth, Western Australia. Speaker: Size dependent toxicity of airborne particles
International conference on health effects of particulate matter. June 2003, Hannover Germany. Speaker. Experimental approaches to investigate the interaction air pollutants and lung disease.
International workshop on vehicle exhaust particles February 2003. Tsukuba, Japan. Speaker and chair, Health effects of nanoparticles.
American Thoracic Society, Toronto, Canada 2001. Invited faculty for Continuing Education Course on Experimental techniques for environmental and occupational lung diseases.
Congress on Inhaled Particles. Cambridge, England, 2001. Invited speaker. Mechanisms of allergic sensitization.